



REMEDIAL INVESTIGATION / FEASIBILITY STUDY

Progress Report #17 November 2017 – January 2018

February 20, 2018

Prepared for:

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1. Project Schedule

1. Introduction

Progress Report (Report) presents a summary of activities completed during the period of November 2017 through January 2018, on behalf of Columbia Falls Aluminum Company, LLC (CFAC), for the Remedial Investigation / Feasibility Study (RI/FS) being performed at the Anaconda Aluminum Co. Columbia Falls Reduction Plant (a/k/a Columbia Falls Aluminum Plant) generally located near Columbia Falls in Flathead County, Montana ("Site"). The RI/FS is being conducted pursuant to the Administrative Settlement Agreement and Order on Consent (AOC) dated November 30, 2015 between CFAC and the United States Environmental Protection Agency (USEPA) (CERCLA Docket No. 08-2016-0002).

This Report provides a description of the actions that have been taken to comply with the AOC during the reporting period and describes work planned for the upcoming reporting period, including an updated project schedule as Appendix A. This report also provides updates regarding the availability of any new, validated sampling data received by CFAC during the reporting period. Lastly, this Report provides an update on any scope revisions and/or project delays encountered and solutions implemented to address any changes.

2. Work Completed

This Section provides a summary of activities completed or ongoing from November 2017 through January 2018.

2.1 Approval of Final Phase I Site Characterization Data Summary Report and Screening Level Ecological Risk Assessment Summary Report

CFAC/Roux Associates submitted the Final Phase I Site Characterization Data Summary Report (Phase I Data Summary Report) and response to Phase I Data Summary Report comments, and Final Screening Level Ecological Risk Assessment (SLERA) on September 18, 2017, and submitted the response to SLERA comments on September 19, 2017. USEPA, in consultation with MDEQ, provided their approval for the Phase I Data Summary Report and SLERA in a letter on January 22, 2018, "Re: Final Phase I Site Characterization Data Summary Report and SLERA Summary Report (dated September 18, 2017)."

2.2 Submittal of the Groundwater and Surface Water Data Summary Report

The results of all four rounds of groundwater and surface water samples collected during the Phase I Site Characterization was included in a Groundwater and Surface Water Data Summary Report (GW/SW Data Summary Report) submitted to USEPA and MDEQ on November 17, 2017. CFAC/Roux received comments on the GW/SW Data Summary Report from USEPA on January 4, 2018, and comments from MDEQ via email on January 15, 2018. USEPA, MDEQ, and CFAC/Roux reviewed the comments during a technical meeting at the Site on January 16 and 17, 2018. CFAC/Roux responses to the comments and a revised GW/SW Data Summary Report will be submitted to USEPA and MDEQ in February 2018. Further updates regarding the review and comment process, and next steps to finalize the GW/SW Data Summary Report will be addressed during the next reporting period.

2.3 Submittal of Draft Baseline Risk Assessment Work Plans

Roux Associates and their risk assessor subcontractor, EHS Support, LLC (EHS Support) submitted the draft Baseline Human Health Risk Assessment Work Plan (BHHRA WP) and Baseline Ecological Risk Assessment Work Plan (BERA WP) to USEPA/MDEQ on November 17, 2017. CFAC/Roux received comments on the BHHRA WP and BERA WP from USEPA on January 4 and 16, 2018. MDEQ submitted their comments on the BHHRA WP and BERA WP to USEPA on January 9, 2018, and CFAC/Roux received their comments on January 10, 2018.

USEPA, MDEQ, and CFAC/Roux reviewed the comments during a technical meeting at the Site on January 16 and 17, 2018. During the meeting it was determined that CFAC/Roux will submit interim risk assessment deliverables to USEPA/MDEQ for review and comment to provide additional details regarding the risk assessment assumptions and methodology beyond that included in the BHHRA WP and BERA WP. The specific items to be addressed in the interim deliverables and the schedule for submission will be identified in the responses to USEPA/MDEQ comments, as well as within the revised BHHRA WP and BERA WP.

CFAC/Roux/EHS Support responses to the comments on the BERA and BHHRA WPs will be submitted to USEPA and MDEQ in February 2018. Further updates regarding the review and comment process, and next steps to finalize the BHHRA WP and BERA WP will be addressed during the next reporting period.

The conceptual framework presented in the BHHRA WP and BERA WP will be used to support the development of a detailed study design and sampling plan in the Phase II Site Characterization Sampling and Analysis Plan (SAP), which will be submitted for agency review and comment in the next reporting period, as described in Section 2.4.

2.4 Preparation of Draft Phase II Sampling and Analysis Plan

As discussed in Section 2.3, CFAC/Roux are developing the draft Phase II Site Characterization SAP to present the scope of work for the next phase of investigation at the Site. The purpose of the Phase II Site Characterization is to supplement the findings from the Phase I Site Characterization completed in 2017 and to address the data gaps identified in the draft BHHRA WP and BERA WP. As discussed with USEPA/MDEQ during the technical meeting (described in Section 2.7), the Scope of Work will include, but is not limited to, a soil boring program, monitoring well installation, two rounds of groundwater and surface water sampling, sediment sampling, sediment porewater sampling, a background study, and an investigation of the soil quality beneath the Main Plant building.

The Phase II SAP will consist of a Field Sampling Plan (FSP) that describes the data gathering and sampling activities and associated fieldwork procedures for the Phase II Site Characterization; and a Quality Assurance Project Plan (QAPP) that describes the policy, organization, functional activities, and quality assurance (QA) and quality control (QC) protocols necessary to achieve the data quality objectives (DQOs) of the Phase II Site Characterization; and an updated project schedule outlining each phase of work for the Phase II Site Characterization. The data collected as part of the Phase I Site Characterization and the Phase II Site Characterization will be utilized to complete the risk assessment and comprehensive feasibility study for the Site. The draft Phase II SAP will be submitted to USEPA and MDEQ for review and comment in February 2018. The Phase II Site Characterization is tentatively scheduled to begin in the second quarter of 2018.

2.5 South Percolation Ponds Expedited Risk Assessment Activities

On September 6, 2017, CFAC/Roux submitted a letter to USEPA requesting concurrence to expedite risk assessment activities in the South Percolation Ponds. As discussed with USEPA and MDEQ via conference call on August 8, 2017, high-water conditions in the Flathead River caused significant erosion of the dam on the east side of the Ponds. While CFAC has taken action in December 2017 to stabilize the dam via installation of rip rap (adjoining the existing sheet pile), future highwater conditions in the Flathead River will cause additional erosion and, at some point, could potentially compromise the dam and pond. The purpose of the expedited risk assessment activities is to provide for a better understanding of environmental conditions in the Ponds and any potential human health or ecological risks associated with those conditions.

The proposed path forward described in the letter included, but was not limited to, determination of data gaps, development of a data gap sampling and analysis plan, a summary of field sampling and analysis activities to be completed in October/November 2017, and development of a technical memorandum to summarize the work completed and risk assessment findings. The findings will be incorporated into the Final Baseline Ecological and Human Health Risk Assessments.

USEPA concurred with the plan to expedite risk assessment activities in the South Percolation Ponds via email correspondence on September 12, 2017. CFAC/Roux submitted an Expedited Risk Assessment Sampling and Analysis Plan (Expedited Risk Assessment SAP) for the South Percolation Ponds to USEPA on October 23, 2017. The Expedited Risk Assessment SAP discussed the approach to conduct sampling

activities and laboratory analysis for locations within and around the South Percolation Ponds. USEPA concurred with the approach outlined in the letter in email correspondence on October 24, 2017.

Roux Associates conducted soil, sediment, and surface water sampling activities in and around the Ponds and Backwater Seep Sampling Area in accordance with the USEPA approved Expedited Risk Assessment SAP in October and November 2017. The soil and sediment samples collected during the Expedited Risk Assessment are provided as Table 1, and the surface water samples are provided as Table 2. The sampling results and findings from the Expedited Risk Assessment will be summarized in a technical memorandum for submission to USEPA in the first quarter of 2018. In addition, the results will be used as part of the BHHRA and BERA for the Site.

2.6 Concrete Sampling and Data Evaluation

Concrete sampling of one crushed concrete stockpile (Stockpile 01A and 01B together as one 5,000 cubic yard stockpile identified as Stockpile 01) was conducted by Hydrometrics on August 10, 2017, in accordance with the path forward outlined in the email correspondence from USEPA dated June 28, 2017. The concrete sample was sent to TestAmerica in Edison, New Jersey. Concrete data was sent for data validation in August 2017 and was received in September 2017.

Concrete sampling of one crushed concrete stockpile (one 2,500 cubic yard stockpile identified as Stockpile 02) was conducted by Hydrometrics on September 1, 2017. The concrete sample was sent to TestAmerica in Edison, New Jersey. Concrete data was sent for data validation in September 2017 and was received in October 2017.

The validated analytical results for the concrete samples described above were provided to USEPA in a letter report dated October 26, 2017; and the results were discussed with USEPA and MDEQ during a conference call on October 30, 2017. During the call, USEPA requested that a recommendation for the use of the crushed concrete be provided.

CFAC's contractor Calbag Resources, LLC (Calbag), prepared a letter to USEPA, "Re: Columbia Falls Aluminum Company Plant Demolition," on November 28, 2017 requesting consent to place the crushed concrete stockpiles in the potroom basements for backfilling activities, and requesting consent to place future crushed concrete into potroom basements subject to analytical testing for metals. USEPA prepared a response letter to Calbag's request on January 8, 2018, stating that the "contaminated material is not suitable for on-site disposal," and as such, the material "must be disposed of safely and responsibly at an appropriate off-site disposal facility."

Calbag is currently onsite and still demolishing the Main Plant building. The first four pot rooms and the West Rectifier Yard have been demolished and the pot room basements have been cleaned out.

2.7 Weekly Reporting, Project Conference Calls, and Project Meetings

Weekly reports were submitted to USEPA for South Percolation Pond Expedited Risk Assessment sampling activities in November 2017.

A project update and technical meeting was held on Tuesday, January 16 and 17, 2018 at the Site. The meeting was held to discuss the comments provided by USEPA and MDEQ on the BHHRA WP, BERA WP, and GW/SW Data Summary Report; and to discuss the proposed sampling plan for the Phase II Site

Characterization. In addition, the meeting included discussions and project updates regarding the project schedule, Main Plant building demolition, and concrete reuse. The group discussed a Community Liaison Panel/Public meeting and Site tour for early Spring 2018, but formal dates are not currently proposed. The meeting minutes were documented in a Memorandum "Re: Minutes for Project Update/Technical Meeting – January 16 – 17, 2018" and distributed to USEPA and MDEQ.

A call was held on January 30, 2018 with Brian Sanchez (USEPA Toxicologist), Sherry Skipper (USEPA Fish and Wildlife), Roux Associates, EHS Support Ecological Risk Assessor, and CDM Smith to discuss outstanding comments on the BERA WP. The proposed path forward for the topics discussed will be outlined in the response to USEPA comments on the BERA WP.

3. Work Planned for Next Reporting Period

This section summarizes the work planned for the next reporting period of February 2018 through April 2018.

3.1 Groundwater and Surface Water Data Summary Report

As described in Section 2.2, CFAC/Roux Associates will submit responses to the comments and a revised GW/SW Data Summary Report to USEPA and MDEQ in February 2018. Further updates regarding the review and comment process, and next steps to finalize the GW/SW Data Summary Report will be addressed during the next reporting period.

3.2 Draft Baseline Risk Assessment Work Plans

CFAC/Roux/EHS Support responses to the comments will be submitted to USEPA and MDEQ in February 2018. Further updates regarding the review and comment process, and next steps to finalize the BHHRA WP and BERA WP will be addressed during the next reporting period.

3.3 Draft Phase II Sampling and Analysis Plan

As described in Section 2.4, CFAC/Roux are developing the draft Phase II Site Characterization SAP to outline the scope of work for the proposed 2018 investigation at the Site. The draft Phase II SAP will be submitted to USEPA and MDEQ for review and comment in February 2018. The Phase II Site Characterization is tentatively scheduled to begin in the second quarter of 2018.

3.4 South Percolation Ponds Expedited Risk Assessment

Roux Associates conducted soil, sediment, and surface water sampling activities in and around the Ponds and Backwater Seep Sampling Area in accordance with the USEPA approved Expedited Risk Assessment SAP in October and November 2017. The sampling results and findings from the Expedited Risk Assessment will be summarized in a technical memorandum for submission to USEPA in the first quarter of 2018. In addition, the results will be used as part of the BHHRA and BERA for the Site.

3.5 Concrete Sampling and Data Evaluation

CFAC's contractor Calbag prepared a letter to USEPA, "Re: Columbia Falls Aluminum Company Plant Demolition," on November 28, 2017 requesting consent to place the crushed concrete stockpiles in the potroom basements for backfilling activities, and requesting consent to place future crushed concrete into potroom basements subject to analytical testing for metals. As discussed in Section 2.6, USEPA prepared a response letter to Calbag's request on January 8, 2018, stating that the concrete is not suitable for onsite disposal due to elevated leachable fluoride levels which may pose risk to groundwater, and as such, "must be disposed of safely and responsibly at an appropriate off-site disposal facility." Calbag is evaluating their disposal options and their recommendation regarding the use of concrete. The path forward for the use of concrete will be communicated to USEPA and MDEQ prior to disposal or any other use.

The demolition work will continue to proceed from west to east, with the anticipated completion of the remaining pot rooms within early second quarter 2018.

4. Database Updates

Validation of laboratory data from the Phase I Site Characterization is being performed by Laboratory Data Consultants (LDC) as a subcontractor to Roux Associates. From November 2017 through January 2018, nine validated datasets from the Expedited Risk Assessment sampling were received from LDC and uploaded to the CFAC RI/FS database by Roux Associates.

Validated data will continue to be imported into the project database and managed in accordance with the data management procedures outlined in Section 7.10 of the QAPP. Future progress reports will discuss updates to the project database.

5. Scope/Schedule Revisions

An updated project schedule is attached to this Progress Report in Appendix A. The schedule was updated to reflect progress based on RI/FS activities completed through January 2018. The project schedule was revised as per the outcomes of the discussions with USEPA and MDEQ in August 2017 and to account for response time to the additional EPA/MDEQ comments/revisions on the Phase I Data Summary Report and SLERA Summary Report. As discussed with USEPA during the October 5, 2017 project update meeting, CFAC/Roux requested a modification to the project schedule in a letter to USEPA on October 23, 2017, "Re: Modification to Table 3 in CFAC RI/FS Work Plan" to modify the deliverable date of the Draft Candidate Technologies and Remedial Alternatives Memorandum until after the completion of the Baseline Risk Assessment. USEPA provided a Work Plan Schedule Modification to reflect this change to the AOC on December 14, 2017. No changes to the schedule are expected at this time for the remaining Phase I Site Characterization tasks.

A schedule for the Phase II Site Characterization will be included in the Phase II Site Characterization SAP, and will be provided to USEPA routinely throughout the RI/FS in future progress reports.

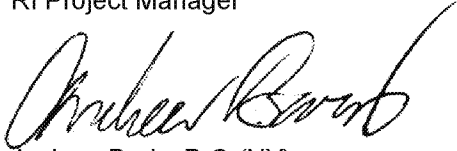
On behalf of CFAC, Roux Associates will continue to pursue the overall objectives described in the AOC and the RI/FS Work Plan. Roux Associates will continue to inform the USEPA of completed and upcoming activities pursuant to the requirements of the AOC in future progress reports.

Respectfully submitted,

ROUX ASSOCIATES, INC.

A handwritten signature in black ink, appearing to read "Michael Ritorto".

Michael Ritorto, P.G.(NY)
Principal Hydrogeologist /
RI Project Manager

A handwritten signature in black ink, appearing to read "Andrew Baris".

Andrew Baris, P.G.(NY)
Executive Vice President /
Principal Hydrogeologist /
RI/FS Project Manager

TABLES

1. Expedited Risk Assessment for South Percolation Ponds
Soil Samples
2. Expedited Risk Assessment for South Percolation Ponds
Surface Water and Sediment Samples

**Table 1. Expedited Risk Assessment for South Percolation Ponds Soil Samples
Columbia Falls Aluminum Company, Columbia Falls, Montana**

Location ID	Date	Surface (0-0.5 ft bls)	Shallow (0.5-2 ft bls)	Intermediete- Depth (2-4 ft bls)	Grain Size	Notes
CFSB-134	10/31/2017	X	X			
CFSB-135	10/31/2017	X	X			
CFSB-136	10/31/2017	X	X			
CFSB-137	11/1/2017	X	X			CFSB-137-SO-0.5-2 collected again 11/2/17 due to 11/1/17 shipment issues
CFSB-138	11/1/2017	X	X			
CFSB-139	10/31/2017	X	X			
CFSB-140	10/31/2017	X	X			
CFSB-141	11/1/2017	X	X			CFSB-141-SO-0.5-2 collected again 11/2/17 due to 11/1/17 shipment issues
CFSB-142	11/2/2017	X	X	X		
CFSB-143	11/2/2017	X	X	X		
CFSB-144	11/3/2017	X	X	X		
CFSB-145	11/6/2017	X	X	X		
CFSB-146	11/6/2017	X	X	X		
CFSB-147	11/6/2017	X	X	X		
CFSB-148	11/6/2017	X	X	X		
CFSB-151	11/7/2017	X	X		X	Grain size analyzed at surface, shallow, and intermediete-depth samples.
CFSB-152	11/7/2017	X	X		X	Grain size analyzed at surface, shallow, and intermediete-depth samples.
CFSB-153	11/6/2017	X	X		X	Grain size analyzed at surface, shallow, and intermediete-depth samples.

**Table 2. Expedited Risk Assessment for South Percolation Ponds Surface Water and Sediment Samples
Columbia Falls Aluminum Company, Columbia Falls, Montana**

Proposed Location ID	Field Sample ID	Sample Type	Date Completed	Notes	Site Feature
CFSW-003	CFSWP-003	Surface Water	10/31/2017		Backwater Seep Sampling Area
CFSW-003	CFSDP-003	Sediment	10/31/2017		Backwater Seep Sampling Area
CFSW-004	CFSWP-004	Surface Water	10/31/2017		Backwater Seep Sampling Area
CFSW-004	CFSDP-004	Sediment	10/31/2017		Backwater Seep Sampling Area
CFSW-005	CFSWP-005	Surface Water	11/1/2017		Backwater Seep Sampling Area
CFSW-005	CFSDP-005	Sediment	11/2/2017		Backwater Seep Sampling Area
CFSW-018	CFSWP-018	Surface Water	Location Frozen No Sample Collected		South Percolation Ponds
CFSW-018	CFSDP-018	Sediment	11/7/2017		South Percolation Ponds
CFSW-019	CFSWP-019	Surface Water	11/7/2017		South Percolation Ponds
CFSW-019	CFSDP-019	Sediment	11/7/2017		South Percolation Ponds
CFSW-020	CFSWP-020	Surface Water	11/7/2017		South Percolation Ponds
CFSW-020	CFSDP-020	Sediment	11/7/2017		South Percolation Ponds
CFSW-026	CFSWP-026	Surface Water	10/31/2017		Backwater Seep Sampling Area
CFSW-026	CFSDP-026	Sediment	10/31/2017		Backwater Seep Sampling Area
CFSW-027	CFSWP-027	Surface Water	10/31/2017		Backwater Seep Sampling Area
CFSW-027	CFSDP-027	Sediment	10/31/2017		Backwater Seep Sampling Area
CFSW-028	CFSWP-028	Surface Water	10/31/2017		Backwater Seep Sampling Area
CFSW-028	CFSDP-028	Sediment	10/31/2017		Backwater Seep Sampling Area
CFSW-029	CFSWP-029	Surface Water	11/1/2017		Backwater Seep Sampling Area
CFSW-029	CFSDP-029	Sediment	11/1/2017		Backwater Seep Sampling Area
CFSW-030	CFSWP-030	Surface Water	11/3/2017		East of Backwater Seep Sampling Area
CFSW-030	CFSDP-030	Sediment	11/3/2017		East of Backwater Seep Sampling Area
CFSW-031	CFSWP-031	Surface Water	11/3/2017		East of Backwater Seep Sampling Area
CFSW-031	CFSDP-031	Sediment	11/3/2017		East of Backwater Seep Sampling Area
CFSW-032	CFSWP-032	Surface Water	11/3/2017		East of Backwater Seep Sampling Area
CFSW-032	CFSDP-032	Sediment	11/3/2017		East of Backwater Seep Sampling Area
CFSW-033	CFSWP-033	Surface Water	11/3/2017		East of Backwater Seep Sampling Area
CFSW-033	CFSDP-033	Sediment	11/3/2017		East of Backwater Seep Sampling Area
CFSB-149	CFSB-149	Sediment	11/7/2017	Under Frozen Water, Collected as Sediment	South Percolation Ponds
CFSB-150	CFSB-150	Sediment	11/7/2017	Under Frozen Water, Collected as Sediment	South Percolation Ponds

APPENDIX A

Project Schedule

